**IT Applications Unit 3, AOS 2, Organisations and Data Management**

**Structure and role of relational databases, p 101**

**Describe the following relationships in a relational database.**

1. One-to-one relationship

A one-to-one relationship is used when a record in one table is connected to only one record in a second table.

1. One-to-many relationship

One-to-many relationship indicates that one record in the first table can be connected to more than one record in a second table.

1. Many-to-many relationship

Many-to-many is used when each record in the first table can be connected to a number of records in the second table.

**Determining a RDBMS structure**

Need to determine which field in each database will be the primary key

1. What are the roles of foreign keys?

They are used to ensure that if you are entering data in one table, it already has a corresponding value in another.

**Read the document, Primary keys/ Foreign keys**

1. describe the characteristics of a foreign key.

What is meant by referential integrity?

Referential integrity is a database concept that ensures that relationships between tables remain consistent.

**Table normalisation**

1. What is the role of table normalisation?

Its role is to provide a systematic procedure to check for anomalies and deviations in data structure that would make the database less efficient.

1. There are six “normal forms”, each rule applied successively from the first normal form, (1NF).
2. Describe the nature of the following three “normal forms”.
   1. First normal form, (1NF)

This rule states that at each field and record intersection there is only one value, not a list of values.

* 1. Second normal form, (2NF)

When you have more than one primary key field in a table, each non-key field must fully dependant on the key, not just partly dependant.

* 1. Third normal form, (3NF)

To be 3NF compliant, every field in a table must relate directly to the primary key.

**Read the article, normalisation for more explanation of this process.**